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United States Senate
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Computing Research

Opening Statement

Chairman Manchin, Ranking Member Barrasso, and distinguished members of the Committee, thank you for the opportunity to testify today.

We are at a critical juncture in technological history. The People's Republic of China (PRC) is in intense competition with the United States, aiming to dominate advanced computing and AI by 2030. Over the past seven years, they have increased their R&D budgets by 10% annually while engaging in sophisticated espionage to acquire technology. This is not just economic competition but a strategic effort to reshape the global order.

The Department of Energy (DOE) and its network of 17 national laboratories and 35 user facilities are our technological vanguard. These institutions have consistently delivered innovations underpinning American leadership, from clean rooms to platforms powering key industries. The DOE labs' potential to drive AI innovation is enormous, with applications for national security, energy, and scientific advancement. These breakthroughs, powered by DOE's supercomputing capabilities, could revolutionize areas like material sciences, molecular dynamics and power grid resilience.

This necessitates a multifaceted approach: enhancing the security of our national lab facilities, maximizing their operational and scientific capabilities, and implementing strategic initiatives to attract and retain the world's most brilliant minds while removing those who seek to exploit our system. We must foster an environment where our scientists and engineers are encouraged to think big, push the boundaries of innovation, and be confident that their groundbreaking work is safeguarded against foreign exploitation.

The PRC has explicitly held up U.S. national laboratories as models to emulate in their five-year plans, stating in their 13th Five-Year Plan: "National laboratories have become key platforms for major developed countries to seize the high ground in technological innovation. For instance, the Argonne, Los Alamos, and Lawrence Berkeley National Laboratories in the United States ... are all research bases focused on national missions. It is urgently needed to focus on national goals and strategic needs, target international technological frontiers, and establish a group of larger-scale, interdisciplinary, and integrative national laboratories."

Xi Jinping has since announced the creation of their own national laboratories that are explicitly designed to mimic and ultimately surpass our DOE complex. While imitation may be the sincerest form of flattery,

in this context, it serves as a stark reminder of the value and vulnerability of our national laboratories. The PRC's efforts to surpass our labs and capitalize on their advancements highlight the pressing need for a comprehensive approach to research security that preserves our competitive edge.

The bottom line is that the PRC is pursuing an aggressive campaign of technological advancement that relies on both aggressively investing in their own R&D capabilities and illicitly acquiring intellectual property. Furthermore, their strategy integrates civilian research with military applications, as evidenced by statements from top Chinese academic institutions. This goes beyond normal competition; it represents a coordinated effort to challenge America's innovation leadership and reshape the global technological landscape in Beijing's authoritarian image.

The PRC's legal framework further complicates this picture. Laws such as the 2017 National Intelligence Law compel Chinese citizens and organizations to "support, assist, and cooperate with state intelligence work." This means that even well-intentioned Chinese researchers may be legally obligated to share information with their government, regardless of any commitments made to U.S. institutions.

Let me be clear: research security is not about stifling innovation or closing our doors to the world. It is also not about and cannot be about targeting individuals based on ethnicity. It's simply about ensuring that our openness is not exploited to our detriment by an adversarial nation.

The DOE's national laboratories have long been a shining beacon for scientists and researchers worldwide. That is an asymmetric advantage that we have. This global appeal is not just a point of pride; it's a cornerstone of our technological leadership. For instance, 59% of top-tier AI researchers work in the U.S., but only 20% received their undergraduate degrees here. Our nation's commitment to freedom, innovation, and scientific excellence has made us the destination of choice for the world's brightest minds. This magnetic pull of talent is not just an asset; it's a national and economic security imperative.

We can and must maintain our leadership in scientific collaboration, but on terms that protect our national interests. We have passed several laws to address these challenges, including measures in the CHIPS and Science Act, various NDAA's, and executive actions such as NSPM-33. Effective implementation of these remains key. This requires funding agencies, enforcement authorities, universities, and researchers to work closely together, with a strong emphasis on educating researchers about potential risks and best practices.

The path that I've laid out today is undoubtedly challenging and will require sustained commitment and vigilant oversight. However, the alternative—a world where the PRC dictates the rules for transformative technologies—is simply not an option we can entertain.

There is much more that I could say on these matters, but I trust we'll cover them more fully over the course of this hearing. Thank you again for the opportunity to testify and I look forward to your questions.

Background

The PRC is engaged in an intense technological competition with the United States. This is not mere economic rivalry, but a strategic effort to supplant American leadership and reshape the global order. The PRC's ambitions to dominate advanced computing and artificial intelligence by 2030 represent a serious threat to our national security, economic prosperity, and way of life.

Under Xi Jinping's iron-fisted rule, the PRC has weaponized every facet of Chinese society in pursuit of technological supremacy. Their whole-of-nation approach erases any distinction between civilian and military applications, turning every research lab, university, and tech company into a potential tool for the People's Liberation Army.

In this high-stakes competition, the DOE and its network of 17 National Laboratories, and 35 user facilities stand as America's technological vanguard. DOE's unparalleled capabilities in advanced computing and multidisciplinary research are crucial assets in maintaining our technological edge. To win this competition, it is critical that we have a multifaceted approach that involves maximizing the operational and scientific capabilities of our National Labs, enhancing research security, and implementing strategic initiatives to attract and retain the world's most brilliant minds.

DOE's Key Role in Advancing U.S. Technological Leadership

The DOE and its network of 17 National Laboratories and 35 user facilities are the crown jewels of our nation's scientific enterprise. They house computational power and multidisciplinary expertise that keep the U.S. at the cutting edge of scientific research and innovation. These institutions are fortresses of innovation, housing computational firepower that the PRC can only dream of replicating independently.

The breadth of artificial intelligence (AI) applications emerging from DOE labs is staggering, spanning critical areas from national defense to energy systems and scientific discovery. This technology is pivotal in shaping our technological and economic competitiveness, particularly in the face of intense global competition. The DOE labs, with their thousands of top-tier scientists and engineers, are uniquely positioned to drive transformative advancements that maintain our national security, propel energy innovation to benefit consumers and businesses, and push the boundaries of scientific breakthrough.

Consider the computational prowess housed within these labs. DOE currently operates some of the world's fastest supercomputers. These machines are not just scientific tools; they are strategic assets that maintain our qualitative edge and drive innovations that keep us ahead in critical technologies. The potential of these supercomputers, when coupled with cutting-edge AI research, is immense. They enable the development of sophisticated AI models that can revolutionize fields such as nuclear fusion, geothermal exploration, carbon capture, drug discovery, and their national security applications.

The impact of DOE labs extends far beyond raw computing power. They have consistently delivered breakthrough innovations that underpin American technological leadership, including:

1. The clean room, invented at Sandia, revolutionized semiconductor manufacturing—an industry crucial for technological independence and at the heart of global tech competition.
2. DOE's collaboration with NVIDIA on NVLink in 2017 helped cement U.S. leadership in high-performance computing interconnects, providing a key advantage in developing next-generation AI systems.
3. DOE-funded research laid the groundwork for programmable Graphics Processing Units (GPUs), enabling the AI revolution that is transforming our economy today.

Looking ahead, the potential for DOE labs to drive AI innovation is enormous. DOE could and should lead in the development of AI for bolstering national security, AI for unleashing energy abundance, and AI for accelerating science. These models, possible only through the supercomputing capabilities of DOE labs, could offer unprecedented insights into complex processes like molecular dynamics crucial for additive manufacturing or power grid dynamics, leading to a more resilient energy infrastructure.

Lab-driven AI investments can aid the process of fundamental scientific discovery itself. In fields like nuclear or high-energy physics, AI-powered models can efficiently capture and analyze massive datasets and drive automated experimentation. AI can also assist science to reveal how matter behaves in extreme environments, crucial for unlocking the mysteries of fusion.¹

Take for example, how DOE is experimenting with cloud labs to automate science. The Pacific Northwest National Laboratory recently shared that their researchers are integrating AI with cloud-based laboratory environments to streamline scientific experimentation.² This approach involves using AI to automate and optimize various aspects of experimental processes, such as setup, monitoring, and data analysis, thereby reducing the need for manual intervention and increasing the throughput of scientific experiments. This technology can significantly enhance research efficiency in areas like biotechnology and materials science, potentially leading to faster scientific discoveries and innovations. Such capabilities could be a gamechanger for how we do science.

Similarly, in the realm of national security, DOE labs play a central role. Their work in AI could enhance U.S. stockpile modernization and surveillance of foreign nuclear activities. The development of classified AI models could significantly advance our capabilities in managing threats to national security, from maintaining space situational awareness to advancing biodefense.³ Moreover, our National Labs are ideally suited to develop AI tools that can test and validate other AI models, especially around proliferation risks. It's important to note that these efforts are being complemented and enhanced by the work of the recently established AI Safety Institute at NIST. The collaborations between DOE and AISI to conduct critical evaluations of AI systems, particularly focusing on potential risks related to chemical, biological, radiological, nuclear, and explosive (CBRNE) threats are critical to our national security.

For energy innovation, advancements in AI at DOE labs can lead to more efficient energy production, enhanced grid security, and accelerate the design and development of next-generation nuclear reactors. For instance, AI models developed at DOE labs could revolutionize electrical grid load forecasting and

¹ <https://engineering.princeton.edu/news/2024/02/21/engineers-use-ai-wrangle-fusion-power-grid>

² <https://www.pnnl.gov/news-media/scientists-pnnl-explore-how-ai-can-help-transform-research>

³ <https://www.llnl.gov/article/51621/llnl-dod-nnsa-dedicate-rapid-response-laboratory-supercomputing-system-accelerate-biodefense>

severe weather prediction, improving reliability and reducing the \$150-billion annual cost of power outages to American businesses.⁴

It is also critical to recognize that building AI capabilities further requires developing the underlying infrastructure to support AI development and deployment and then also having the best talent to utilize that infrastructure. I'll come to the talent piece later, but on the infrastructure side, this means significant investment in building next-generation AI data centers and high-performance computing facilities, developing cutting edge GPUs to put in these data centers, and increasing base load power generation to power them. The recent bipartisan action by this committee on permitting reform will help address many of the regulatory hurdles currently impeding this essential infrastructure buildout.

The strategic importance of DOE labs in maintaining U.S. technological leadership cannot be overstated. As global competition in AI and other emerging technologies intensifies, these labs serve as our technological vanguard. Their unique combination of world-class talent, cutting-edge facilities, and multidisciplinary approach positions them to drive innovations that will shape the future of AI and maintain America's technological edge.

However, the very excellence that makes DOE labs the crown jewels of American scientific enterprise also makes them attractive targets for those seeking to erode our technological advantages. The labs represent a treasure trove of innovation that foreign competitors are eager to access—by any means necessary.

The Importance of Robust Research Security

As we celebrate and leverage the immense capabilities of our DOE labs, we must also recognize the critical need to safeguard them from nefarious actors. The PRC, in particular, has demonstrated a keen interest in emulating and potentially surpassing our research capabilities. Xi Jinping himself has explicitly held up DOE's National Laboratories as models to recreate, stating in the PRC's 13th Five-Year Plan⁵:

“National laboratories have become key platforms for major developed countries to seize the high ground in technological innovation. For instance, the Argonne, Los Alamos, and Lawrence Berkeley National Laboratories in the United States, as well as the Helmholtz Research Centers in Germany, are all research bases focused on national missions. They rely on interdisciplinary approaches, extensive collaboration, and strong support to carry out collaborative innovation.

Currently, China's technological innovation has entered a new stage where tracking, parallel running, and leading coexist. It is urgently needed to focus on national goals and strategic needs, target international technological frontiers, and establish a group of larger-scale, interdisciplinary, and integrative national laboratories. This will involve optimizing the allocation of human, financial, and material resources to create a new pattern of collaborative innovation.

⁴<https://www.energy.gov/ne/articles/department-energy-report-explores-us-advanced-small-modular-reactors-boost-grid>

⁵<http://cpc.people.com.cn/n/2015/1103/c64094-27772663.html>

The main consideration is to set up a number of national laboratories in key innovation areas, create hubs that attract top domestic and international talent, and organize collaborative research with significant leading roles. This approach aims to build technological innovation capabilities that represent national standards, are recognized by international peers, and hold influence on the global stage, positioning China as a strategic force in capturing key international technological heights.”⁶

While imitation may be the sincerest form of flattery, in this context, it serves as a stark reminder of the value and vulnerability of our National Laboratories. It's a testament to the global impact of our National Laboratories that they serve as a model for ambitious nation-states, but it also highlights the pressing need for a thoughtful, comprehensive approach to research security that preserves our competitive edge in the global scientific community. The PRC has since announced their own national laboratories explicitly designed to mimic and ultimately surpass our DOE complex.

Let me be absolutely clear: the PRC is pursuing an aggressive campaign of technological advancement that relies heavily on both investing in their own R&D capabilities (over the last seven years, the PRC has increased its R&D budget consistently by 10% year over year)⁷ and expanding their intellectual property acquisition⁸ and technological intelligence gathering efforts. This goes beyond normal competition; it represents a coordinated effort to challenge America's innovation leadership and reshape the global technological landscape in Beijing's authoritarian image.

The PRC's strategy of integrating civilian research with military applications is not merely theoretical—it's being actively implemented at the highest levels of Chinese academia.

In 2018, Tsinghua University's Vice President, You Zheng, penned an article that laid bare the institution's role in advancing state and military objectives, particularly in the field of AI.⁹ You Zheng stated:

"In accordance with central requirements, Tsinghua University will closely integrate the national strategy of military-civilian integration and the AI superpower strategy. Tsinghua University was entrusted by the CMC [Central Military Commission] Science and Technology Commission to take responsibility to construct the High-End Laboratory for Military Intelligence (军事智能高端实验室). With regard to basic theories and core technologies, military intelligence and general AI possess commonalities. Therefore, Tsinghua University regards the construction of the High-End Laboratory for Military Intelligence as the core starting point for serving the AI superpower strategy.... Therefore, Tsinghua

⁶Original text: “国家实验室已成为主要发达国家抢占科技创新制高点的重要载体, 诸如美国阿贡、洛斯阿拉莫斯、劳伦斯伯克利等国家实验室和德国亥姆霍兹研究中心等, 均是围绕国家使命, 依靠跨学科、大协作和高强度支持开展协同创新的研究基地。

当前, 我国科技创新已步入以跟踪为主转向跟踪和并跑、领跑并存的新阶段, 急需以国家目标和战略需求为导向, 瞄准国际科技前沿, 布局一批体量更大、学科交叉融合、综合集成的国家实验室, 优化配置人财物资源, 形成协同创新新格局。主要考虑在一些重大创新领域组建一批国家实验室, 打造聚集国内外一流人才的高地, 组织具有重大引领作用的协同攻关, 形成代表国家水平、国际同行认可、在国际上拥有话语权的科技创新实力, 成为抢占国际科技制高点的重要战略创新力量。”

⁷ <https://www.economist.com/science-and-technology/2024/06/12/china-has-become-a-scientific-superpower>

⁸ <https://www.reuters.com/world/five-eyes-intelligence-chiefs-warn-chinas-theft-intellectual-property-2023-10-18/>

⁹ <https://www.cnas.org/publications/commentary/tsinghuas-approach-to-military-civil-fusion-in-artificial-intelligence>

University insists on basic research as a support in applied technology research in AI talent training and scientific research innovation, with military requirements as a guide, promoting the development of basic AI research."

This declaration reveals a troubling reality: China's top engineering and computer science institution makes no distinction between foundational AI research and its potential military applications, viewing them as intrinsically linked. The PRC extends this philosophy to the private sector, effectively coopting companies as extensions of the state apparatus. A notable example of this is Huawei, which embodies the PRC's strategy of fusing civilian technological development with state and military interests.¹⁰

Thus, we must recognize that the global research landscape has evolved. A recent report by independent science advisory group JASON notes that while openness in fundamental research promotes scientific discovery, the PRC's efforts to militarize civilian research and restrict information flow "may severely limit the benefits of collaborations with research organizations within the PRC."¹¹

The PRC's legal framework further complicates this picture. Laws such as the 2017 National Intelligence Law compel Chinese citizens and organizations to "support, assist, and cooperate with state intelligence work." This means that even well-intentioned Chinese researchers may be legally obligated to share information with their government, regardless of any commitments made to U.S. institutions.¹²

It's important to note that navigating this landscape is challenging for research institutions across the U.S., including our National Laboratories. Collaborations between U.S. researchers, including those at DOE National Labs, and scientists from Chinese universities with defense research connections have occurred.¹³ While such collaborations have decreased, they underscore the need for continued vigilance and clear guidelines.

This challenge reflects the differing approaches to research and development between the U.S. and the PRC. The PRC's holistic approach to technological development, which blurs the lines between public, private, civilian, and military sectors, creates complexities that our open research system must carefully navigate.

Our response must be comprehensive and nuanced. We must recognize the value of international collaboration while implementing robust safeguards against potential exploitation. This isn't about targeting individuals based on ethnicity, but about addressing a state-driven strategy to acquire technology through various means.

¹⁰ <https://www.axios.com/2019/10/17/china-technology-national-security-huawei-tiktok>

¹¹ <https://new.nsf.gov/news/nsf-announcement-jason-report-safeguarding>

¹² https://www.dni.gov/files/NCSC/documents/SafeguardingOurFuture/FINAL_NCSC_SOF_Bulletin_PRC_Laws.pdf

¹³ The Seven Sons (Beihang University, Beijing Institute of Technology, Harbin Engineering University, Harbin Institute of Technology, Nanjing University of Aeronautics and Astronautics, Nanjing University of Science and Technology, Northwestern Polytechnical University) are widely believed to have close scientific research partnerships and projects with the People's Liberation Army. Nearly three quarters of university graduates recruited by defense related state-owned enterprises in the PRC come from the Seven Sons. The Seven Sons devote at least half of their research budgets to military products. In 2024 alone, researchers affiliated with DOE National Labs have collaborated with scientists from Chinese universities commonly referred to as the Seven Sons of National Defence, resulting in at least 60 research publications so far.

Research security is not about stifling innovation or closing our doors to the world. It is about ensuring that our openness is not exploited to our detriment. We can and must maintain our leadership in scientific collaboration, but on terms that protect our national interests.

We have the legislative framework to address these challenges, including measures in the CHIPS and Science Act, various NDAAAs, and NSPM-33.¹⁴ The focus now should be on effective implementation.¹⁵ This requires funding agencies, enforcement authorities, universities, and researchers to work closely together, with a strong emphasis on educating researchers about potential risks and best practices. We must demonstrate that ethical conduct and scientific excellence are mutually reinforcing, setting a global standard for responsible research practices.

The Talent Imperative: Leveraging DOE's Role in Workforce Development and Global Talent Attraction

While robust security measures are crucial, we must recognize that protecting technology is only part of the equation. To maintain our technological edge, particularly in critical areas like AI, we must capitalize on DOE's dual role as both a domestic workforce developer and an international talent attractor.

Realizing the impact of our National Labs on our strategic priorities requires integrating the best of research and development into solutions. Insulating ourselves entirely from global scientific developments is neither practical nor advisable. Our experts must understand relevant developments by scientists worldwide; a blanket prohibition on the employment of foreign nationals from specific countries with large scientific enterprises would be counterproductive to our national security mission. At the same time, restricting access to sensitive information is vital for our national security. It is about striking that balance.

The DOE's National Labs have long been a shining beacon for scientists and researchers worldwide, embodying the pinnacle of scientific pursuit and technological innovation. This global appeal is not just a point of pride; it's a cornerstone of our technological leadership. The DOE's National Laboratories interact with scientists of foreign origin in three principal ways:

1. Short-term visits by international scientists to share advances and explore collaboration opportunities.
2. As a pipeline for our future workforce, recognizing that a significant portion of higher degree holders in Science and Engineering in the U.S. are foreign-born.
3. Through the integration of foreign-born scientists who become U.S. citizens, obtain clearances, and become integral parts of our national security enterprise.

These interactions are not just beneficial; they are essential for maintaining our technological leadership and our position as the world's premier destination for scientific talent. As the National Security

¹⁴ <https://crsreports.congress.gov/product/pdf/IF/IF12589>

¹⁵ Despite OSTP's significant delays in issuing implementation guidance for NSPM 33, DOE's implementation of NSPM 33 goes beyond what the OSTP has asked for.

Commission on Artificial Intelligence noted in 2022, "The United States risks losing the global competition for scarce AI expertise if it does not cultivate more potential talent at home and recruit and retain more existing talent from abroad."¹⁶

The importance of our ability to attract global talent is underscored by these striking statistics:

- 59% of top-tier AI researchers work in the U.S., but only 20% received their undergraduate degrees here.
- Among the most elite AI researchers (top 0.5%), 65% work in the U.S., but only 35% earned their undergraduate degrees domestically.¹⁷

These figures highlight a crucial point: America's technological leadership is inextricably linked to our ability to attract and retain global talent. Our nation's commitment to freedom, innovation, and scientific excellence has made us the destination of choice for the world's brightest minds. This magnetic pull of talent is not just an asset; it's a vital national and economic security imperative.

The importance of this global talent attraction becomes even more apparent when we consider the scale of the PRC's STEM education pipeline, which produces four times as many bachelor's degree holders and twice as many PhD graduates as the U.S. Xi Jinping himself has described talent as "the first resource" in the PRC's push for "independent innovation."

We must use a scalpel to ensure we are removing the bad actors, not a sledgehammer. As former Counterintelligence Chief Bill Evanina said, "We allow 350,000 or so Chinese students here every year. That's a lot. We have a very liberal visa policy for them. Ninety-nine point nine percent of those students are here legitimately and doing great research and helping the global economy. But it is a tool that is used by the Chinese government to facilitate nefarious activity here in the U.S."¹⁸

Our system's fundamental strength lies in its ability to draw top talent from around the world. While we must be mindful of attempts by authoritarian regimes to exploit our openness, we should resist blunt actions that undermine our key advantages.¹⁹ We must ensure that our National Laboratories continue to be beacons of scientific excellence, drawing the best and brightest from around the world. I suspect that Beijing remains concerned about the kinds of ideas that their innovators get infected with here being transplanted back into their system.

Ultimately, I'm confident in our ability to maintain an open society that organizes and attracts people to achieve remarkable outcomes. Our goal should be to remain the most attractive destination for global talent while implementing measured, thoughtful safeguards against potential threats. Thus, we need precision tools like those initiated by the Trump administration under NSPM-33 and Presidential

¹⁶ <https://reports.nscai.gov/final-report/>

¹⁷ <https://fas.org/publication/unlocking-american-competitiveness-ai-eo/>

¹⁸ <https://www.cnn.com/2019/02/01/politics/us-intelligence-chinese-student-espionage/index.html>

¹⁹ The PRC understands this reality all too well. They view America's ability to attract and retain Chinese talent as a direct threat to their ambitions. The head of the CCP's Central Talent Work Coordination Group has lamented that "the number of top talents lost in China ranks first in the world." A state-run consulting firm wrote in an AI policy white paper that U.S. immigration restrictions "have provided China opportunities to bolster its ranks of high-end talent." The deputy editor of China Daily USA, a government newspaper, said that expansion of the U.S. employment-based immigration system "would pose a huge challenge for China, which has been making great efforts to attract and retain talent."

Proclamation 10043 and those by Congress in the CHIPS and Science Act so that we are only targeting those 1 in 1000 individuals. And then these policies must be continuously updated and aggressively enforced, with DOE taking a leading role in identifying entities linked to the PRC's military-civil fusion strategy.

Conclusion

The U.S. finds itself in a pivotal technological competition that will shape the geopolitical landscape of the 21st century. This is not hyperbole, but a stark reality that demands our immediate and unwavering attention. The arena of this competition is not on traditional battlefields, but in laboratories and research facilities where transformative technologies such as AI, quantum computing, and advanced energy systems are being pioneered.

The PRC's relentless pursuit of technological supremacy, backed by a whole-of-nation approach and disregard for international norms, directly challenges American leadership and the values underpinning our innovation ecosystem. Their ambition to reshape the global technological landscape is a clear and present danger to our national security, economic prosperity, and way of life.

In this critical juncture, the DOE's network of 17 National Laboratories and 35 user facilities stand as America's technological bulwark. These institutions are our first line of defense against technological subversion and the vanguard of American innovation.

The urgency of our situation calls for decisive action to fully harness the potential of our DOE complex together with the private sector. This necessitates a multifaceted approach: enhancing the security of our National Lab facilities, maximizing their operational and scientific capabilities, and implementing strategic initiatives to attract and retain the world's most brilliant minds. We must foster an environment where our scientists and engineers are encouraged to think big, push the boundaries of innovation, and be confident that their groundbreaking work is safeguarded against foreign exploitation.

At the same time, American industry is already leading the way on innovation in critical and emerging technologies like AI, quantum and cyber. Their work today will determine whether tomorrow's technologies are built on democratic values or authoritarian control. Public-private partnerships are crucial in leveraging the strengths of both sectors to drive innovation, accelerate research and development, and rapidly deploy cutting-edge technologies. By combining the long-term vision and resources of the DOE with the agility and market-driven focus of American industry, we create a powerful ecosystem for technological advancement.

The road ahead that I've laid out today is undoubtedly challenging and will require sustained commitment and vigilant oversight. However, the alternative—a world where the PRC dictates the rules for transformative technologies—is simply not an option we can entertain.

By fully empowering our National Laboratories, we not only protect our technological edge but also reinforce the values of open scientific inquiry, ethical research practices, and international collaboration that have long been the hallmarks of American innovation. The DOE complex represents more than just a

collection of research facilities; it embodies our nation's commitment to pushing the boundaries of human knowledge and technological capability.

Thank you, and I look forward to your questions.

Bio:

Dr. Divyansh Kaushik is an expert in emerging technologies and national security, focusing on artificial intelligence and its implications for US-China tech competition. Previously, he served as the Associate Director for Emerging Technologies and National Security at the Federation of American Scientists (FAS). He holds a Ph.D. in Artificial Intelligence from Carnegie Mellon University. Dr. Kaushik's research has earned him thousands of scholarly citations and also led to prestigious accolades in industry and academia. As a recognized voice in discussions on AI, research security, and technological competition, he continues to contribute to leading publications, offering insights that bridge the gap between technology and policy. He is a frequent contributor to leading publications, including the Washington Post, Politico, National Defense Magazine, The Dispatch, Real Clear Defense, Daily Caller, and Forbes, amongst others.

